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ABSTRACT

The purpose of this report is to outline the state of the art in calculus assessment and to indicate directions for explorations in assessment that will enable educators to gain a deeper understanding of student learning in order to improve student learning through calculus instruction. The purpose is accomplished in the context of two major changes related to calculus instruction: (1) a revised set of goals for instruction; and (2) a much-expanded research base regarding the nature of students' understandings of mathematical concepts. This approach is grounded in the principle that assessment requires an understanding of what it means to understand. This report can serve as a vehicle for thinking about individual student work, goals for instruction, and how well a particular course or set of courses might meet those goals. A user's guide to the report, goals for instruction and student assessment in calculus, an account of the state of knowledge about assessment in general, specific calculus-related assessment issues, an agenda for research and development in calculus assessment, and assessment examples are included. Contains 42 references. (DDR)

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